

REMARKS

Claims 1, 4-6 and 8-17 are pending in this application. Claim 1 has been amended to include recitations from claim 18. Accordingly, claim 18 has been cancelled without prejudice or disclaimer. In addition, claim 19 directed to non-elected invention has been cancelled without prejudice or disclaimer. The amendments to the claims do not introduce any new matter or raise any new issues. In particular, the amendment to claim 1 does not raise a new issue since the recitations were already in claim 18 and therefore examined. In addition, entry of the Amendment is requested under 37 C.F.R. § 1.116 because the Amendment: a) places the application in condition for allowance for the reasons discussed herein; b) does not present any additional claims without canceling the corresponding number of final rejected claims; and/or c) places the application in better form for an appeal, if an appeal is necessary. Entry of the Amendment is thus respectfully requested.

Claims 1, 4-6, 8-9, 11-12, 15-16 and 18 stand rejected under 35 U.S.C. §102(b) as being anticipated by Japanese Application No. 2000-239176 (hereinafter "JP '176").

According to the present invention and as recited in the claims, the fat and oil used in the fat and oil processed composition contains at least about 50% by weight of a medium-chain fatty acid triglyceride (MCT).

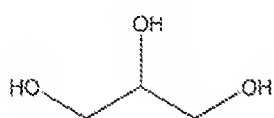
The medium-chain fatty acid triglyceride comprises about C₆ to C₁₂ fatty acids as constituent of the fatty acids (page 11, lines 23 to 24 in the specification). It is used to obtain a good shelf stability. As shown in Table 1, Compounds 1, 2, 3 and 4 (glabrene, glabridin, glabrol and 4'-O-methylglabridin, respectively) are all stable in the MCT solution.

The composition is used for prevention and/or amelioration of a life-style related disease or inhibiting and/or ameliorating increase in body weight. As shown in Example 3, the composition is effective in inhibiting the increase of body weight and in reducing visceral fat.

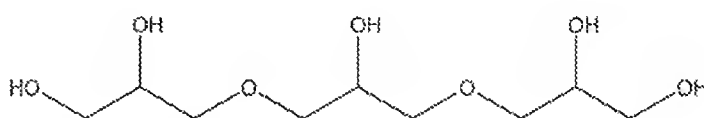
Concerning JP'176, according to the Office Action, this reference teaches that the oil and fat in the composition comprises a medium-chain fatty acid triglyceride. It was stated in the office action, that "JP'176 discloses polyhydric fatty acid esters and states that triglycerol can be

selected as the polyhydric alcohol and lauric acid (medium-chain fatty acid) at [0012 and 0013]" (page 4, second paragraph and page 8, third paragraph in the Office Action).

A MCT is an ester derived from glycerol and three medium-chain fatty acids. As shown in the attached references, "triglycerol" is a compound quite different from "glycerol". MCTs cannot be derived from triglycerol. Accordingly, the MCT has been misinterpreted in the Office Action.



Glycerol



Triglycerol

In addition, JP'176 teaches that diglycerol monofatty acid esters are especially preferable as polyhydric alcohol fatty acid esters (paragraph [0012]). Accordingly, those skilled in the art would not even choose a combination of triglycerol and lauric acid.

Accordingly, the fat and oil processed composition according to the present invention is not anticipated by JP'176. JP'176 fails to anticipate the present invention. In particular, anticipation requires the disclosure, in a prior art reference, of each and every recitation as set forth in the claims. See *Titanium Metals Corp. v. Banner*, 227 USPQ 773 (Fed. Cir. 1985), *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 1 USPQ2d 1081 (Fed. Cir. 1986), and *Akzo N.V. v. U.S. International Trade Commissioner*, 1 USPQ2d 1241 (Fed. Cir. 1986).

There must be no difference between the claimed invention and reference disclosure for an anticipation rejection under 35 U.S.C. 102. See *Scripps Clinic and Research Foundation v. Genetech, Inc.*, 18 USPQ2d 1001 (CAFC 1991) and *Studiengesellschaft Kohle GmbH v. Dart Industries*, 220 USPQ 841 (CAFC 1984).

The cited art must clearly and unequivocally disclose the claimed invention without any need for picking and choosing and combining various disclosures from the reference. Please see

Net MoneyIn v. VeriSign, Inc. et al. 545 F.3d 1359 1371, 88 USPQ2d 1751 (Fed. Cir. 2008).

Therasense Inc. v. Becton, Dickinson and Co. 93 USPQ2d 1481 (Fed. Cir. 2010)

Anticipation is not found when single prior art reference contains all elements "could have been arranged" as claimed unless the manner in which elements are arranged or combined as claimed is disclosed either expressly or inherently. Please see Therasense Inc. v. Becton, Dickinson and Co. 93 USPQ2d 1481 (Fed. Cir. 2010). Also see Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co. 730 F.2d 1452, 1459; 221 USPQ 481 (Fed. Cir. 1984); Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548, 220 USPQ 193 (Fed. Cir. 1983); and . NetMoneyIN Inc. v. Verisign, Inc. supra.

To the extent that inherency is being relied upon in the Office Action, it is important to keep in mind that inherency requires that the recited results or structure must necessarily be obtained not merely that it might be achieved. See *Electra Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 32 USPQ2d 1017 (Fed. Cir. 1994); *In re Oelrich*, 212 USPQ 323 (CCPA 1981); *In re Robertson*, 49 USPQ2d 1949 (Fed. Cir. 1999); *Transclean Corp. v. Bridgwood Servs. Inc.*, 290 F.3d 1364, 1373; 62 USPQ1865 (Fed. Cir. 2002); *Cont'l Can Co. USA, Inc. v. Monsanto Co.* 948 F.2d 1264, 1269; 20 USPQ2d 1746 (Fed. Cir. 1991); and *Trintec Indus., v. Top-U.S.A.* 295 F. 3d 1292, 1295; 63 USPQ2d 1597.

Claims 1, 4-6, 8-12, 15-16 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Japanese Application No. 2000-239176 in view of Japanese Application No. 2003-274856 (hereinafter also referred to as "JP '856"). The cited references do not render obvious the present invention. JP'856 does not overcome the above disclosed deficiencies of JP'176 with respect to rendering obvious the present invention.

Concerning JP'856, according to the Office Action, "the reference discloses comprising many oils that contain a good percentage of medium-chain triglycerols [sic] such as palm oil [0016]" (page 9, first paragraph in the Office Action). As shown in the attached reference, the main fatty acid components in palm oil are palmitic acid (C16) and oleic acid (C18), both long-chain fatty acids. The percentage of C12 and lower fatty acids is only 2.5% max. Therefore palm oil contains only a small amount of MCT and is not an oil containing at least about 50% by weight of a MCT.

JP'856 teaches away from using MCTs. JP'856 teaches that MCTs are unsuitable as edible oils since they have problems of anus leak and low smoke point (paragraph [0005]). Palm oil supports this "teaching away" since it is not an oil containing a good percentage of MCTs.

The cited art should be considered as a whole, and portions arguing against or teaching away from the claimed invention must be considered. See *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 230 U.S.P.Q. 46 (Fed. Cir. 1986). Where, as here, the suggestion of a reference would discourage persons skilled in the art from doing what applicant taught and claimed, the reference establishes "the very antithesis of obviousness". See *In re Buehler* 185 USPQ 781 (CCPA, 1975) and *In re Rosenberger* 156 USPQ 24 (CCPA, 1967).

Further, JP'856 teaches dissolving the hydrophobic extract of licorice in a diglyceride mixture, as appreciated by the Examiner (page 5, the last paragraph in the Office Action). The substantial point is the use of diglyceride, and the reference teaches palm oil and other edible oils only as additional components. It does not suggest using an oil which contains at least about 50% by weight of a MCT as employed according to the present invention.

Accordingly, even if JP'176 and JP'856 are combined, the present invention is still not rendered obvious.

Claims 13, 14 and 17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over JP '176 in view of International Publication No. WO 02/47699 to Mae et al. (hereinafter also referred to as "Mae"). Mae does not remedy the deficiencies of JP'176 and JP'856.

Concerning the viscosity of the oil and fat, according to the Office Action, the same compounds should have the same physical properties (page 6, last paragraph in the Office Action). It seems that the defined range has not been considered to be a specific feature.

MCTs comprise about C6 to C12 fatty acids as constituent fatty acids wherein the proportion of the constituent fatty acids is not particularly limited, as explained in the present specification (page 11, lines 23 to 25). The viscosity of each MCT depends on the proportion of the constituent fatty acids and is not necessarily the same. For example, tricaprln (glycerol tricaprln) and trilaurin (glycerol trilaurate) are included in MCTs, and their melting points are 31°C and 46.5°C, respectively, as shown in the attached references. Namely, the viscosity of either one does not satisfy the defined range "about 23 to 28 cP at about 20°C" since they are solid at 20°C. Further, commercially available MCTs contain various triglycerides with various

fatty acid proportions. The viscosity of each MCT depends on the blending ratio of triglycerides. For example, as shown in the attached references, MIGLYOL oils include both oils which satisfy the defined viscosity and oils (e.g. MIGLYOL818) which do not. The defined viscosity range "about 23 to 28 cP at about 20°C" does specify the composition according to the present invention. The cited references do not teach or suggest this feature at all.

In conjunction with interpreting 35 U.S.C. §103 under *Graham V. John Deere*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966) and *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007), the initial burden is on the Patent Office to provide some apparent reason or suggestion of the desirability of doing what the inventor did, i.e. the Patent Office must establish a *prima facie* case of obviousness. To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention, or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. Moreover, MPEP, § 706.02(j), states that "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. Also, please see *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). This has not been done in the present case.

The mere fact that cited art may be modified in the manner suggested in the Office Action does not make this modification obvious, unless the cited art suggests the desirability of the modification or impliedly suggests the claimed invention, or the Examiner has presented a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. No such suggestion appears in the cited art in this matter nor has a convincing line of reasoning been presented in this case. The Examiner's attention is kindly directed to *KSR Int'l Co. v. Teleflex, Inc.*, *supra*; *In re Dembiczak et al.*, 50 USPQ2d.1614 (Fed. Cir. 1999), *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984), *In re Laskowski*, 10 USPQ2d, 1397 (Fed. Cir. 1989) and *In re Fritch*, 23, USPQ2d. 1780 (Fed. Cir. 1992).

Furthermore, the cited art lacks the necessary direction or incentive to those of ordinary skill in the art to render a rejection under 35 USC 103 sustainable. The cited art fails to provide the degree of predictability of success of achieving the properties, such as the improved adhesion, attained by the present invention needed to have a rejection under 35 U.S.C. 103 sustained. See *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007), *Diversitech Corp. v. Century Steps, Inc.*, 7 USPQ2d 1315 (Fed. Cir. 1988), *In re Mercier*, 187 USPQ 774 (CCPA 1975) and *In re Naylor*, 152 USPQ 106 (CCPA 1966).

Moreover, the results or effects of the subject matter and improvements which are inherent in the claimed subject matter and disclosed in the specification are to be considered when evaluating the question of obviousness under 35 USC 103. See *KSR Int'l Co. v. Teleflex*, supra, *In re Sullivan*, 498 F. 3d 1345 (Fed. Cir. 2007), *Gillette Co. v. S.C. Johnson & Son, Inc.*, 16 USPQ2d 1923 (Fed. Cir. 1990), *In re Antonie*, 195 USPQ 6 (CCPA 1977), *In re Estes*, 164 USPQ 519 (CCPA 1970), and *In re Papesch*, 137 USPQ 43 (CCPA 1963).

No property or effect can be ignored in determining patentability and comparing the claimed invention to the prior art. Along these lines, see *In re Sullivan*, supra, *In re Papesch*, supra, *In re Burt et al*, 148 USPQ 548 (CCPA 1966), *In re Ward*, 141 USPQ 227 (CCPA 1964), and *In re Cescon*, 177 USPQ 264 (CCPA 1973).

In view of the above, consideration and allowance are respectfully solicited.

In the event the Examiner believes an interview might serve in any way to advance the prosecution of this application, the undersigned is available at the telephone number noted below.

Application No.: 10/560,900

Docket No.: 21581-00479-US

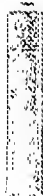
The Office is authorized to charge any necessary fees due with this paper to Deposit Account No. 22-0185, under Order No. 21581-00479-US from which the undersigned is authorized to draw.

Dated: December 20, 2010

Respectfully submitted,

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1/1 ページ

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Glyceol

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CAS339206

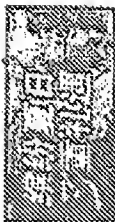
Glyceol

C2H4O3

92.09

56-81-5

Mol file

[China Suppliers\(60\)](#)[Global Suppliers\(75\)](#)[Chemical Properties](#)[MSDS\(2\)](#)

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2010/11/17



FDA Registered Refined Palm Oil, All Natural
cGMP Proven Quality

REFINED PALM OIL

GENERAL INFORMATION

Palm Oil - Crude / Palm Oil - Refined / Refined Crude

Our company supplies and wholesales palm oil, as well as other fats and oils. We offer rapid and efficient service to our US and world-wide customers. We have in house quality controls for all the incoming and outgoing products. We use the most up to date methods prescribed by U.S.P., F.C.C., A.O.C.S., A.S.T.M., and via gas chromatography to verify that our oils and fats meet the required specifications and industry standards. Please contact us for great prices, fast delivery and proven quality.

More Info on Palm Oil

Oil from the fruit of a palm tree, (*Elaeis guineensis*), native to tropical West Africa and cultivated in Africa, Indonesia, Malaysia, and tropical America as the source of palm oil. The palm oil contains a very high percentage of saturated fat. Growing to a height of 15 m, the palms produce fleshy fruits, 3 cm long, containing a white kernel within a hard black shell. Palm oil is extracted from the pulp and kernel and used in making soaps, margarine, lubricants, etc. When used in soaps, palm oil creates a hard, long lasting bar of soap that is mild and cleanses well. Palm oil has similar characteristics to tallow in soaps.

Reliable Palm Oil Supplier - cGMP Certified - FDA Registered - Kosher

GENERAL SPECIFICATIONS


Refined Palm Oil is the oil obtained from the fleshy portion of the fruit from varieties of the palm *Elaeis guineensis* which has been refined, bleached and deodorized.

TEST	METHOD	RANGE
Specific gravity @ 25°C	USP	0.911-0.918
Iodine value	USP	50 - 55
Free fatty acids (as Oleic)	USP	0.1% max
Moisture	AOCS Ca 20-25	0.1% max
Color Gardner	AOCS Td 1a-64	3 max
Appearance	White to pale yellow solid to semisolid lard-like fat	
Flavor and Odor	Sland, odorless	

TYPICAL FATTY ACID COMPOSITION (%)

C12 & lower	2.5 max		
C14:0	0.5 - 5.9	C18:1	34 - 44
C16:0	32 - 47	C18:2	7 - 12
C18:0	2 - 8		

Because of natural variations in oilseed crops, chemical and physical constants cannot be guaranteed at all times.

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7 Avenue L, Newark, NJ 07105 USA
Tel: 973-483-1200 * Fax: 973-483-7332 * Telex/Fax: 973-483-3482

SIGMA-ALDRICH**Material Safety Data Sheet**Version 3.0
Revision Date 04/09/2008
Print Date 09/28/2010**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Glyceryl tridecanoate
Product Number : T7517
Brand : Sigma
Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +18003255632
Fax : +18003255052
Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 1,2,3-Tricaprinoylglycerol
Glycerol tricaprate
Tridecanoin
Glycerol tria(decanoate)
1,2,3-Tridecanoylglycerol
Tricaprin

Formula : $C_{33}H_{62}O_8$
Molecular Weight : 554.84 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Glycerol tridecanoate			
821-71-6	210-702-0	-	-

3. HAZARDS IDENTIFICATION**Emergency Overview**

OSHA Hazards
No known OSHA hazards

HMS Classification

Health Hazard: 0
Flammability: 0
Physical hazards: 0

NFPA Rating

Health Hazard: 0
Fire: 0
Reactivity Hazard: 0

Potential Health Effects

Inhalation Skin Eyes Ingestion	May be harmful if inhaled. May cause respiratory tract irritation. May be harmful if absorbed through skin. May cause skin irritation. May cause eye irritation. May be harmful if swallowed.
4. FIRST AID MEASURES If inhaled If breathed in, move person into fresh air. If not breathing give artificial respiration. In case of skin contact Wash off with soap and plenty of water. In case of eye contact Flush eyes with water as a precaution. If swallowed Never give anything by mouth to an unconscious person. Rinse mouth with water.	
5. FIRE-FIGHTING MEASURES Flammable properties Flash point no data available Ignition temperature no data available Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Special protective equipment for fire-fighters Wear self contained breathing apparatus for fire fighting if necessary.	
6. ACCIDENTAL RELEASE MEASURES Personal precautions Avoid dust formation. Environmental precautions No special environmental precautions required. Methods for cleaning up Sweep up and shovel. Keep in suitable, closed containers for disposal.	
7. HANDLING AND STORAGE Handling Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. Storage Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: -20 °C	
8. EXPOSURE CONTROLS/PERSONAL PROTECTION Contains no substances with occupational exposure limit values. Personal protective equipment Respiratory protection Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).	
Sigma - T7617	Sigma-Aldrich Corporation www.sigma-aldrich.com

Hand protection
For prolonged or repeated contact use protective gloves.

Eye protection
Safety glasses

Hygiene measures
General industrial hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form crystalline
Colour light yellow

Safety data

pH no data available
Melting point 31 °C (88 °F)
Boiling point no data available
Flash point no data available
Ignition temperature no data available
Lower explosion limit no data available
Upper explosion limit no data available
Water solubility no data available

10. STABILITY AND REACTIVITY

Storage stability
Stable under recommended storage conditions.

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity
no data available

Irritation and corrosion
no data available

Sensitisation
no data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as

a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

12. ECOLOGICAL INFORMATION

Elimination Information (persistence and degradability)

no data available

Ecotoxicity effects

no data available

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards

No known OSHA hazards

TSCA Status

On TSCA Inventory

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

No Components Listed

Pennsylvania Right To Know Components

Glycerol tridecanoate

CAS-No.
821-71-8

Revision Date

New Jersey Right To Know Components

Glycerol tridecanoate

CAS-No.
821-71-8

Revision Date

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

18. OTHER INFORMATION**Further Information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

SIGMA-ALDRICH**Material Safety Data Sheet**Version 3.0
Revision Date 12/31/2008
Print Date 08/26/2010**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Glyceryl tridodecanoate
Product Number : T4891
Brand : Sigma
Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +18003255832
Fax : +18003255062
Emergency Phone # : (314) 776-8355

2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 1,2,3-Tridodecanoylglycerol
1,2,3-Triauroylglycerol
Triaurin
Tridodecanoin
Glyceryl trilaurate
Glycerol trilaurate

Formula : $C_{39}H_{74}O_6$
Molecular Weight : 639.00 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Glycerol trilaurate			
538-24-9	208-867-0	-	*

3. HAZARDS IDENTIFICATION**Emergency Overview**

OSHA Hazards
No known OSHA hazards

HMS Classification
Health Hazard: 0
Flammability: 0
Physical hazards: 0

NFPA Rating
Health Hazard: 0
Fire: 0
Reactivity Hazard: 0

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

4. FIRST AID MEASURES

If inhaled
If breathed in, move person into fresh air. If not breathing give artificial respiration.

In case of skin contact
Wash off with soap and plenty of water.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water.

5. FIRE-FIGHTING MEASURES

Flammable properties
Flash point no data available

Ignition temperature no data available

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Avoid dust formation.

Environmental precautions
No special environmental precautions required.

Methods for cleaning up
Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Storage
Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: -20 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment**Respiratory protection**

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

For prolonged or repeated contact use protective gloves.

Eye protection

Safety glasses

Hygiene measures

General industrial hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form solid

Safety data

pH no data available

Melting point 48.5 °C (116.7 °F)

Boiling point no data available

Flash point no data available

Ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Water solubility no data available

10. STABILITY AND REACTIVITY**Storage stability**

Stable under recommended storage conditions.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. • Carbon oxides

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

no data available

Irritation and corrosion

no data available

Sensitisation

no data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

12. ECOLOGICAL INFORMATION**Elimination information (persistence and degradability)**

no data available

Ecotoxicity effects

no data available

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS**Product**

Observe all federal, state, and local environmental regulations.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION**OSHA Hazards**

No known OSHA hazards

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Glycerol triaurate

CAS-No.
538-24-8

Revision Date

New Jersey Right To Know Components

Glycerol triaurate

CAS-No.
538-24-8

Revision Date

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION**Further Information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

SASOL
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Product Information

09.04

MIGLYOL® 810, 812, 818, 829, 840 Neutral Oils For Pharmaceuticals and Cosmetics

1. Description

MIGLYOL neutral oils are clear, slightly yellowish esters of saturated coconut and palmkernel oil-derived caprylic and capric fatty acids and glycerin or propylene glycol (MIGLYOL 840).

2. INCI (CTFA) and JCIC** names:

MIGLYOL 810, 812	Caprylic/Capric Triglyceride (JCIC: Caprylic/Capric Acid Triglyceride)
MIGLYOL 818	Caprylic/Capric/Linoleic Triglyceride
MIGLYOL 829	Caprylic/Capric/Succinic Triglyceride
MIGLYOL 840	Propylene Glycol Dicaprylate/Dicaprate

3. Properties

MIGLYOL neutral oils are clear, virtually colorless liquids of neutral odor and taste.

MIGLYOL neutral oils are very pure because of their carefully selected raw materials. As a result of tightly controlled manufacturing process, they contain very few microorganisms and are free of additives such as antioxidants, solvents and catalyst residues (Exception: MIGLYOL 818, which contains an antioxidant).

MIGLYOL neutral oils have the following advantages in comparison to natural oils:

High stability against oxidation (Exception: MIGLYOL 818 contains about 4 % linoleic acid).

Liquid at 0 °C.

Excellent spreadability on the skin and good skin absorption.

Do not inhibit skin-respiration.

Excellent penetration-promoting, emollient and skin-smoothing properties.

Very good solubility characteristics.

4. Solubilities

MIGLYOL neutral oils are soluble at 20 °C in the following solvents:

Hexane, toluene, diethyl ether, ethyl acetate, acetone, isopropanol, and ethanol 98%.

Neutral oils are miscible in all ratios with paraffin hydrocarbons and natural oils.

sasol
reaching new frontiers



Product Information

09.04

MIGLYOL® 810, 812, 818, 829, 840 Neutral Oils For Pharmaceuticals and Cosmetics

Characteristic Values

Tests	810	812	818	829	840
Acid value (mg KOH/g) a)	max. 0.1	max. 0.1	max. 0.2	max. 1	max. 0.1
Iodine value (g I ₂ /100 g) b)	max. 0.5	max. 0.5	max. 10	max. 1 *	max. 0.5
Saponification value (mg KOH/g) c)	335 – 355	325 – 345	315 – 335	400 – 430	320 – 340
Peroxide value (mequi O/kg) d)	max. 1.0	max. 1.0	max. 5	max. 1 *	max. 1.0
Hydroxyl value (mg KOH/g) e)	max. 5	max. 5	max. 10	max. 15	max. 5
Colour (APHA) f)	max. 100	max. 100	max. 150	max. 200	max. 50
Water (%) g)	max. 0.1	max. 0.1	max. 0.1	max. 0.25 *	max. 0.1
Refractive index n _D ²⁰ h)	1.448 – 1.451	1.449 – 1.451	1.450 – 1.453	1.455 – 1.459	1.440 – 1.442
Density at 20 °C (g/cm ³) i)	0.94 – 0.95	0.94 – 0.95	0.93 – 0.95	1.00 – 1.02 *	0.91 – 0.93
Viscosity at 20 °C (mPa·s) j)	27 – 33	27 – 33	30 – 35 *	ca. 230 – 270 *	8 – 12
Alkaline reactive substances k) (ml HCl/2 g)	max. 0.15	max. 0.15	max. 0.15 *	max. 0.15 *	max. 0.15
Heavy metals (ppm) l)	max. 10	max. 10	max. 10 *	max. 10 *	max. 10 *
Total ash (%) m)	max. 0.1	max. 0.1	max. 0.2 *	max. 0.2 *	max. 0.05
Unsataponifiable matter (%) n)	max. 0.3	max. 0.3 *	max. 0.3	max. 0.5 *	max. 0.3

Composition of fatty acids

Tests	810	812	818	829	840
Caproic acid (C _{6:0})	max. 2.0	max. 2.0	max. 2 *	max. 2 *	max. 2 *
Caprylic acid (C _{8:0})	65.0 – 80.0	50.0 – 65.0	45 – 65 *	45 – 55 *	55 – 80 *
Capric acid (C _{10:0})	20.0 – 35.0	30.0 – 45.0	30 – 45 *	30 – 40 *	20 – 35 *
Lauric acid (C _{12:0})	max. 2	max. 2	max. 3 *	max. 3 *	max. 2 *
Myristic acid (C _{14:0})	max. 1.0	max. 1.0	max. 1 *	max. 1 *	max. 1 *
Linoleic acid (C _{18:2})	-	-	2 – 5 *	-	-
Succinic acid	-	-	-	15 – 20 *	-

* not included in Certificate of Analysis, but checked randomly, limits guaranteed